

3.2.1 Sugarland Run Group Summary

3.2.1.1 Sugarland Run Watershed

Description. Sugarland Run Watershed is a medium sized watershed, with approximately 26 miles of stream assessed. It is located along the northwestern boundary of the County. The County contains most of the headwaters of the stream. Sugarland Run continues through Loudoun County before it discharges into the Potomac River.

Habitat. The habitat assessment results for Sugarland Run Watershed are summarized by stream in Table 3-5. Habitat scores for each reach are depicted in Figure 3-3. Based on a length weighted habitat score of 111 (Table 3-2), Sugarland Run Watershed is in the upper middle range of quality, compared to the rest of the County. Approximately 7.5 miles of stream were categorized as having “poor” habitat conditions, 10.5 miles as “fair,” and 8 miles as “good.”

CEM. On the basis of the CEM evaluations approximately 60 percent of the channels in Sugarland Run Watershed are in Evolutionary Stage 3 (Table 3-3) and the remainder are in Stage 4. Figure 3-4 summarizes the CEM results.

Infrastructure. The infrastructure inventory resulted in 281 inventory points. The most significant problems were related to two deficient buffers, two head cuts, a crossing, a pipe, and an erosional area, which were given an impact scores of 10. The infrastructure inventory results are summarized in Table 3-6. Figures 3-5, 3-6, 3-7, 3-8, and 3-9 summarize impact scores for the erosion problems; deficient buffers; pipes/ditches; crossings; and dumps, obstructions, and utilities, respectively.

3.2.1.2 Horsepen Creek Watershed

Description. Horsepen Creek Watershed is a medium-sized watershed, with approximately 17 miles of stream assessed. It is located along the middle of the northwestern boundary of the County. The lower portion of the watershed is located in Loudoun County, before the Creek discharges into Broad Run and eventually into the Potomac River.

Habitat. The habitat assessment results for Horsepen Creek Watershed are summarized by stream in Table 3-7. Habitat scores for each reach are depicted in Figure 3-3. Based on a length weighted habitat score of 100 (Table 3-2), Horsepen Creek Watershed is in the lower middle range of quality, compared to the rest of the County. Approximately 1 mile of stream was categorized as having “very poor” habitat conditions, 6 miles as “poor,” 8 miles as “fair,” and 1.5 mile as “good.”

CEM. Based on the CEM evaluations, nearly all of the channels assessed in Horsepen Creek Watershed are in Evolutionary Stage 3 (Table 3-3), with all of the remainder in Stage 2. Figure 3-4 summarizes the CEM results.

Infrastructure. The infrastructure inventory resulted in 322 inventory points. The most significant problems were related to two head cuts, which were given impact scores of 9 and 10. The infrastructure inventory results are summarized in Table 3-8. Figures 3-5, 3-6, 3-7, 3-8, and 3-9 summarize impact scores for the erosion problems; deficient buffers; pipes/ditches; crossings; and dumps, obstructions, and utilities, respectively.

TABLE 3-5
Habitat Assessment Summary for Sugarland Run Watershed
Fairfax County Stream Physical Assessment

Stream	Linear Feet (Percent) of Stream					Total
	Very Poor	Poor	Fair	Good	Excellent	
Folly Lick Branch	0 (0.00)	11,305 (52.49)	1,461 (6.79)	8,771 (40.72)	0 (0.00)	21,537
Hughes Branch	0 (0.00)	0 (0.00)	1,257 (100.00)	0 (0.00)	0 (0.00)	1,257
Muddy Branch	0 (0.00)	0 (0.00)	2,034 (100.00)	0 (0.00)	0 (0.00)	2,034
Offuts Branch	0 (0.00)	935 (9.13)	2,502 (24.45)	6,796 (66.41)	0 (0.00)	10,233
Rosiers Branch	0 (0.00)	0 (0.00)	3,161 (35.70)	5,692 (64.30)	0 (0.00)	8,853
Sugarland Run	0 (0.00)	25,215 (33.29)	30,965 (40.88)	19,564 (25.83)	0 (0.00)	75,744
Sugarland Run Tributary	0 (0.00)	2,434 (14.95)	13,850 (85.05)	0 (0.00)	0 (0.00)	16,283
Watershed Total	0 (0.00)	39,888 (29.34)	55,231 (40.63)	40,823 (30.03)	0 (0.00)	135,942

TABLE 3-6
Infrastructure Assessment Summary for Sugarland Run Watershed
Fairfax County Stream Physical Assessment

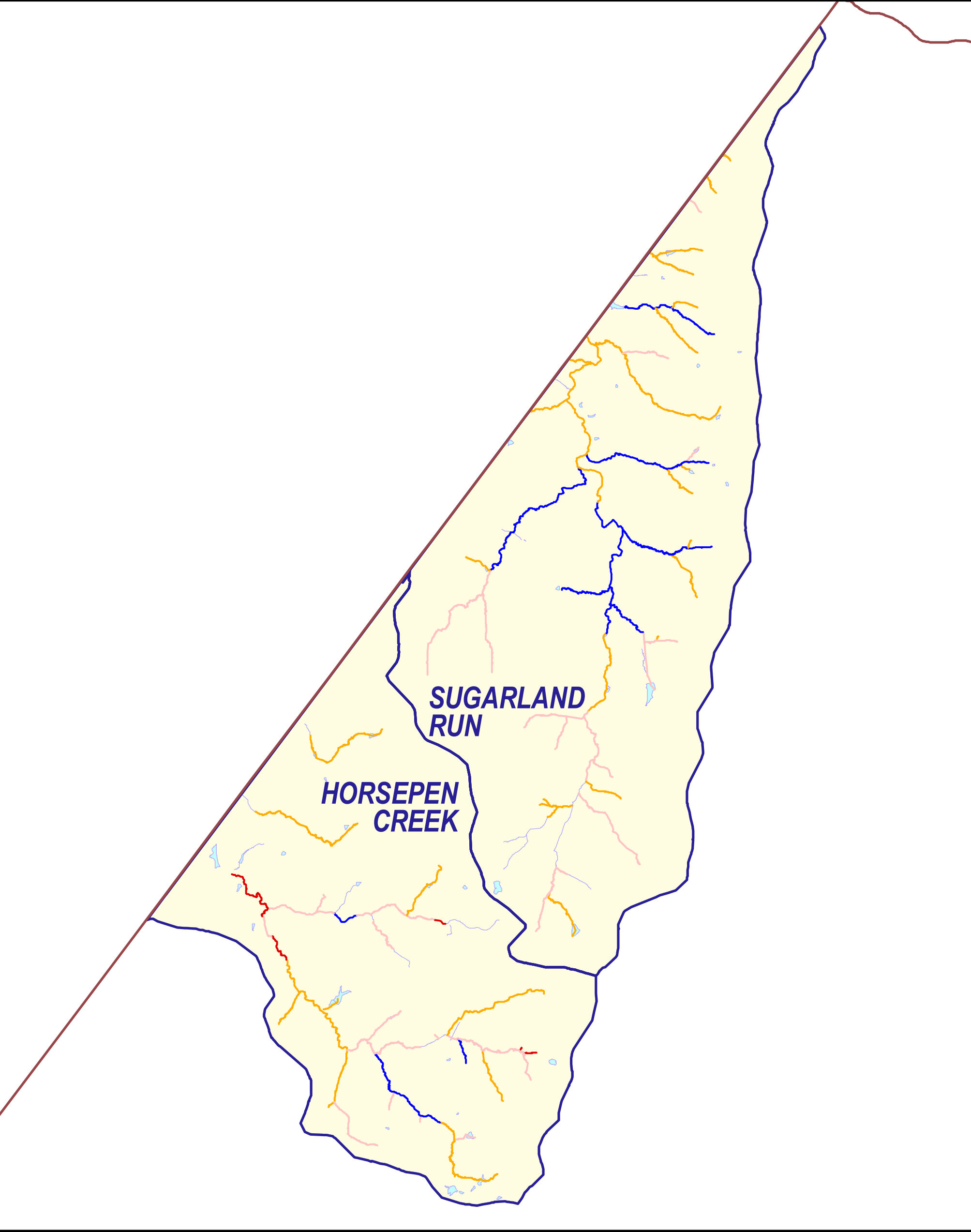
Impact Score	0	1	2	3	4	5	6	7	8	9	10	> 10	Total
Buffers	0	0	8	15	14	23	1	8	1	1	2	N/A	73
Crossings	0	88	34	11	3	4	0	0	0	0	1	N/A	141
Ditches and Pipes	1	30	7	2	0	2	0	0	0	0	1	N/A	43
Erosion	0	0	0	0	1	3	0	1	0	0	1	N/A	6
Head Cut	0	0	0	0	0	0	0	0	0	0	2	N/A	2
Obstruction	1	0	4	6	1	1	0	0	0	0	0	N/A	13
Utility	0	0	0	3	0	0	0	0	0	0	0	0	3
Total	2	118	53	37	19	33	1	9	1	1	7	0	281

TABLE 3-7
Habitat Assessment Summary for Horsepen Creek Watershed
Fairfax County Stream Physical Assessment

Stream	Linear Feet (Percent) of Stream					Total
	Very Poor	Poor	Fair	Good	Excellent	
Cedar Run	0 (0.00)	2,317 (17.17)	5,892 (43.67)	5,283 (39.16)	0 (0.00)	13,493
Frying Pan Branch	550 (3.41)	10,829 (67.23)	3,334 (20.70)	1,395 (8.66)	0 (0.00)	16,108
Horsepen Creek	0 (0.00)	0 (0.00)	3,442 (100.00)	0 (0.00)	0 (0.00)	3,442
Horsepen Run	6,212 (14.74)	16,327 (38.74)	19,607 (46.52)	0 (0.00)	0 (0.00)	42,146
Merrybrook Run	0 (0.00)	0 (0.00)	6,575 (100.00)	0 (0.00)	0 (0.00)	6,575
Tributary To Horsepen Run	0 (0.00)	2,289 (30.53)	3,904 (52.06)	1,306 (17.41)	0 (0.00)	7,499
Watershed Total	6,762 (7.57)	31,762 (35.58)	42,755 (47.90)	7,984 (8.94)	0 (0.00)	89,262

TABLE 3-8
Infrastructure Assessment Summary for Horsepen Creek Watershed
Fairfax County Stream Physical Assessment

Impact Score	0	1	2	3	4	5	6	7	8	9	10	> 10	Total
Buffers	0	0	26	12	4	34	3	16	1	0	0	N/A	96
Crossings	31	11	14	3	0	4	2	1	0	0	0	N/A	66
Ditches and Pipes	31	6	16	6	6	9	0	2	1	0	0	N/A	77
Erosion	0	0	0	0	2	6	4	2	0	0	0	N/A	14
Head Cut	0	0	0	5	6	1	0	0	0	1	1	N/A	14
Obstruction	1	0	9	21	4	7	1	3	3	0	0	N/A	49
Utility	0	3	1	0	0	2	0	0	0	0	0	0	6
Total	63	20	66	47	22	63	10	24	5	1	1	0	322



- Fairfax County Boundary
- Habitat Rating
 - Excellent
 - Good
 - Fair
 - Poor
 - Very Poor
 - No Habitat Assessment
- Lakes and Ponds
- Watersheds

WATERSHED GROUP:
SUGARLAND RUN

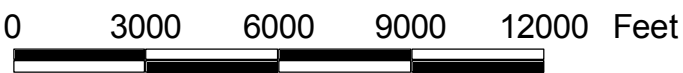
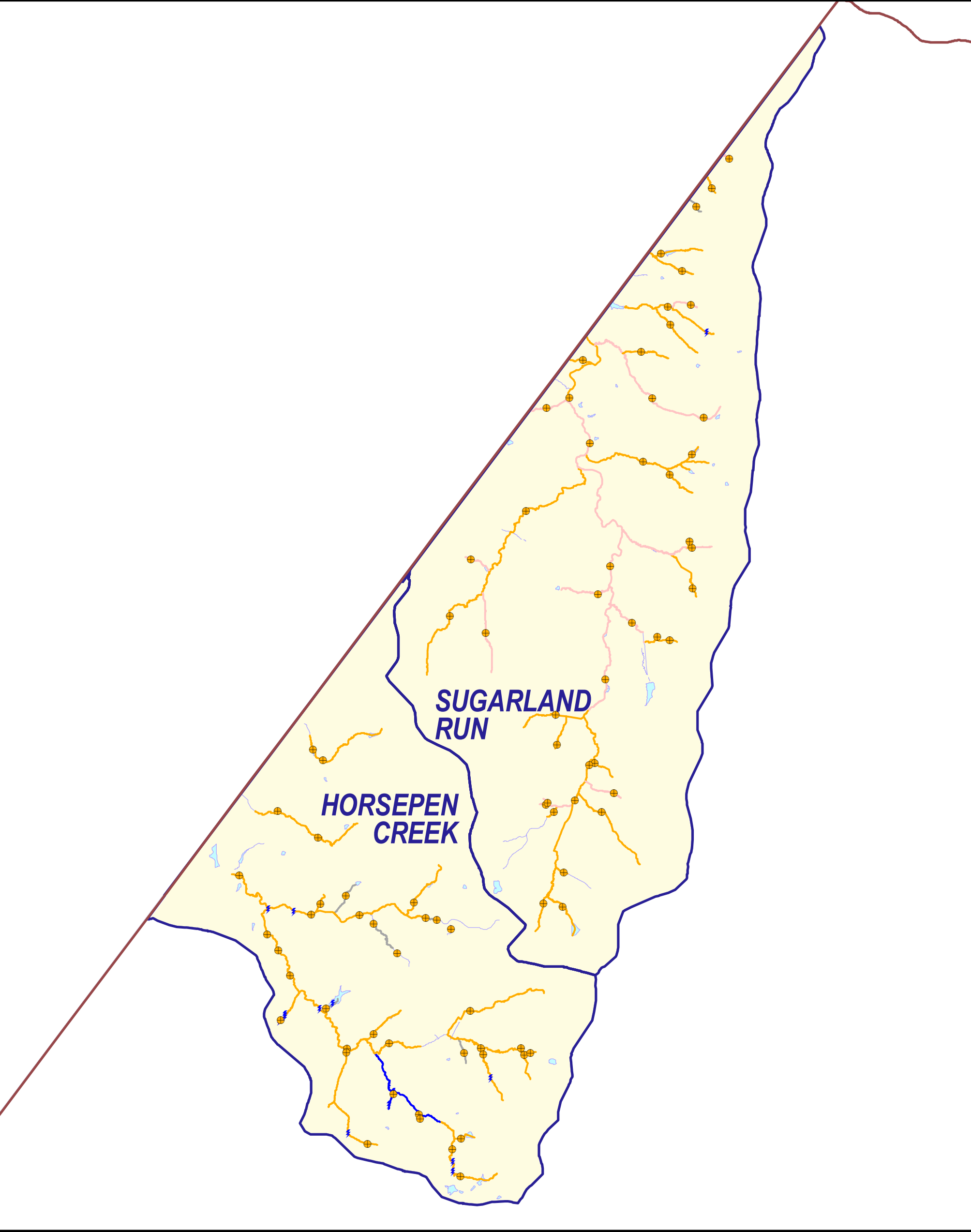


Figure 3-3
Habitat Assessment
Sugarland Run Group
Fairfax County Stream Physical Assessment





- Inventory Types
- Cross Section
 - ⚡ Head Cut
- CEM Stage
- Not Assigned
 - 1
 - 2
 - 3
 - 4
 - 5
- Legend:
- Fairfax County Boundary
 - Lakes and Ponds
 - Streams
 - Watersheds

WATERSHED GROUP:
SUGARLAND RUN

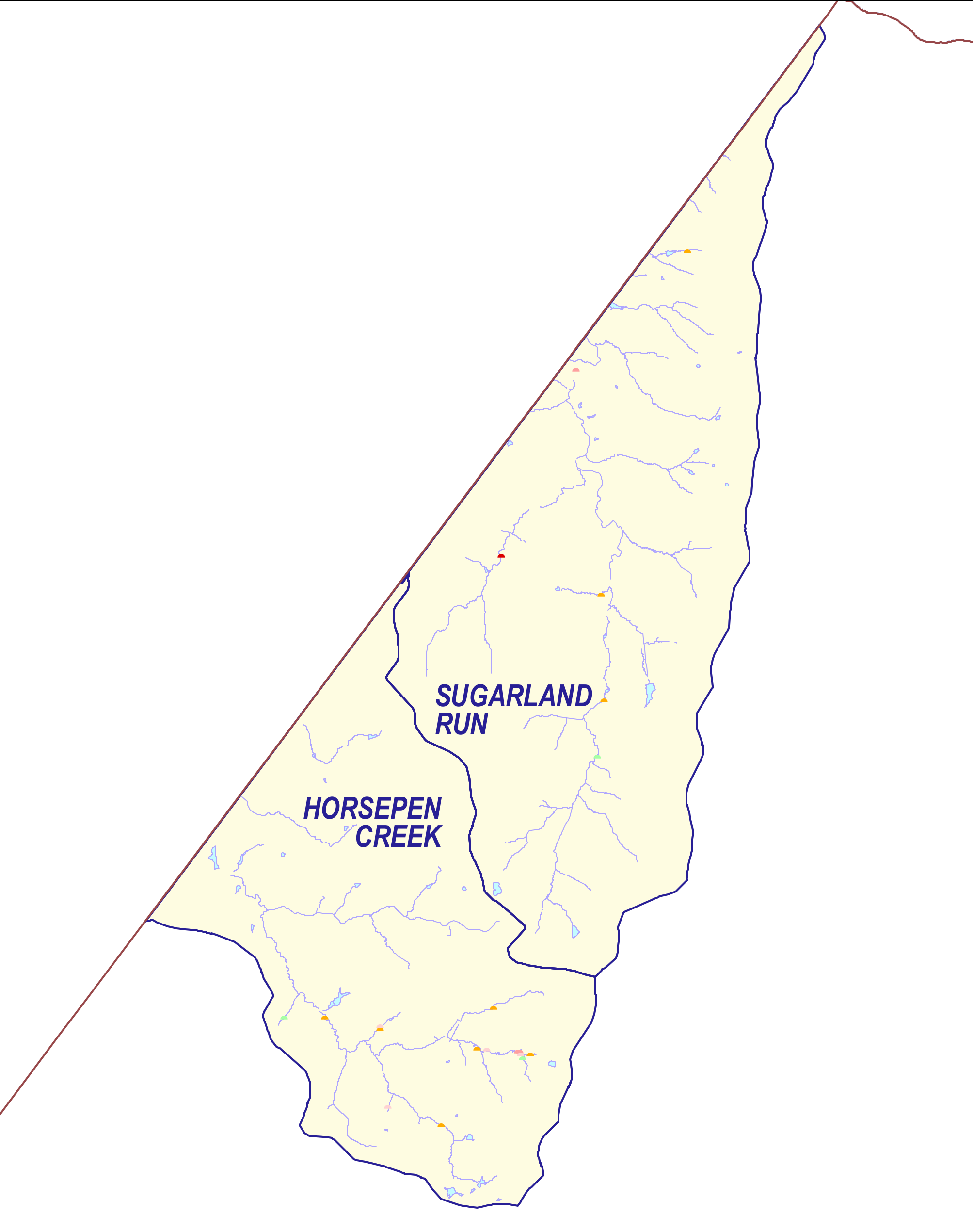


Figure 3-4
CEM Stages
Sugarland Run Group
Fairfax County Stream Physical Assessment



0 3000 6000 9000 12000 Feet





Erosion by Impact Score

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

- Fairfax County Boundary
- Lakes and Ponds
- Streams
- Watersheds

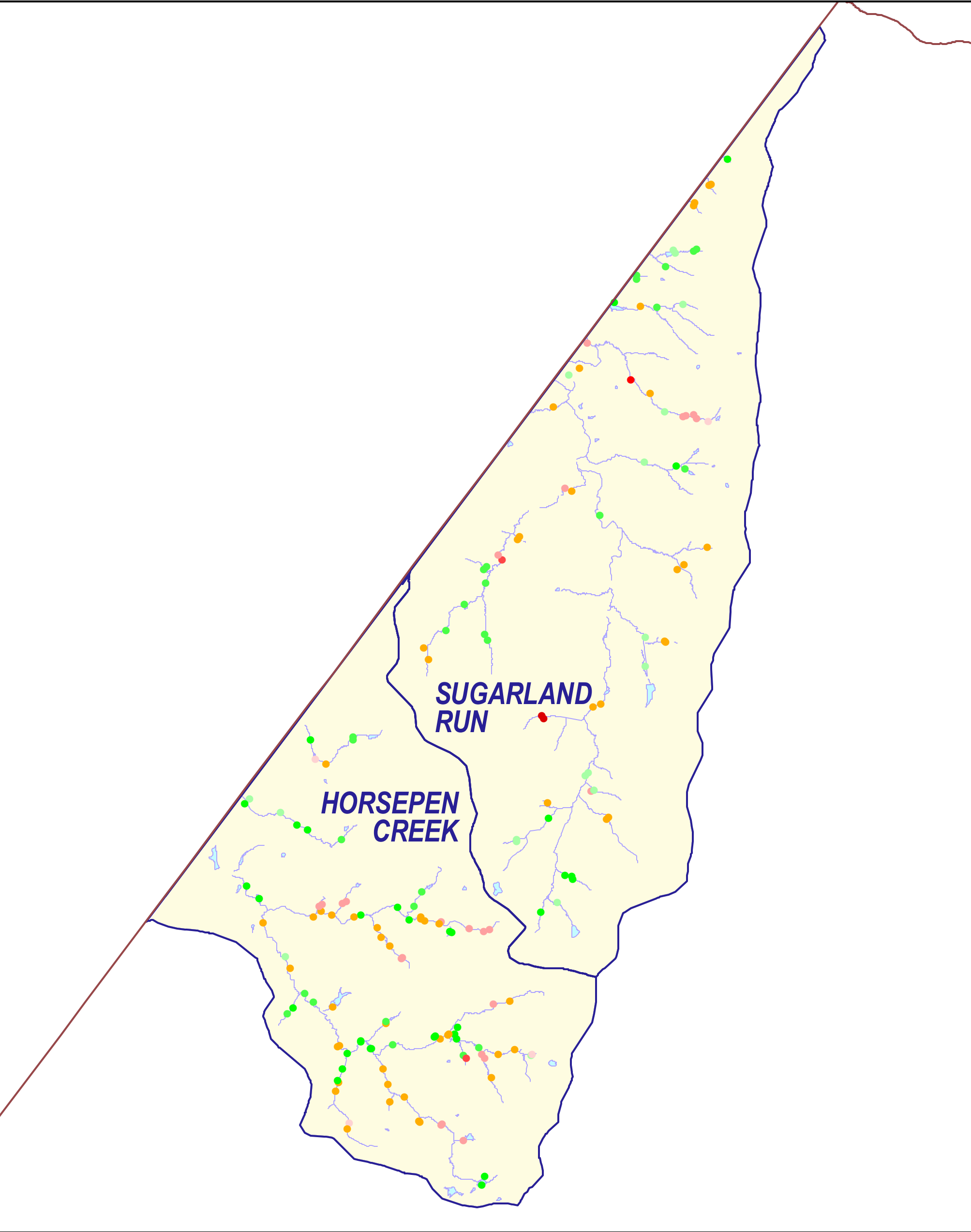
WATERSHED GROUP:
SUGARLAND RUN



0 3000 6000 9000 12000 Feet

Figure 3-5
Erosion Impacts
Sugarland Run Group
Fairfax County Stream Physical Assessment





Deficient Buffer by Impact Score

- 0
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

- Fairfax County Boundary
- Lakes and Ponds
- Streams
- Watersheds

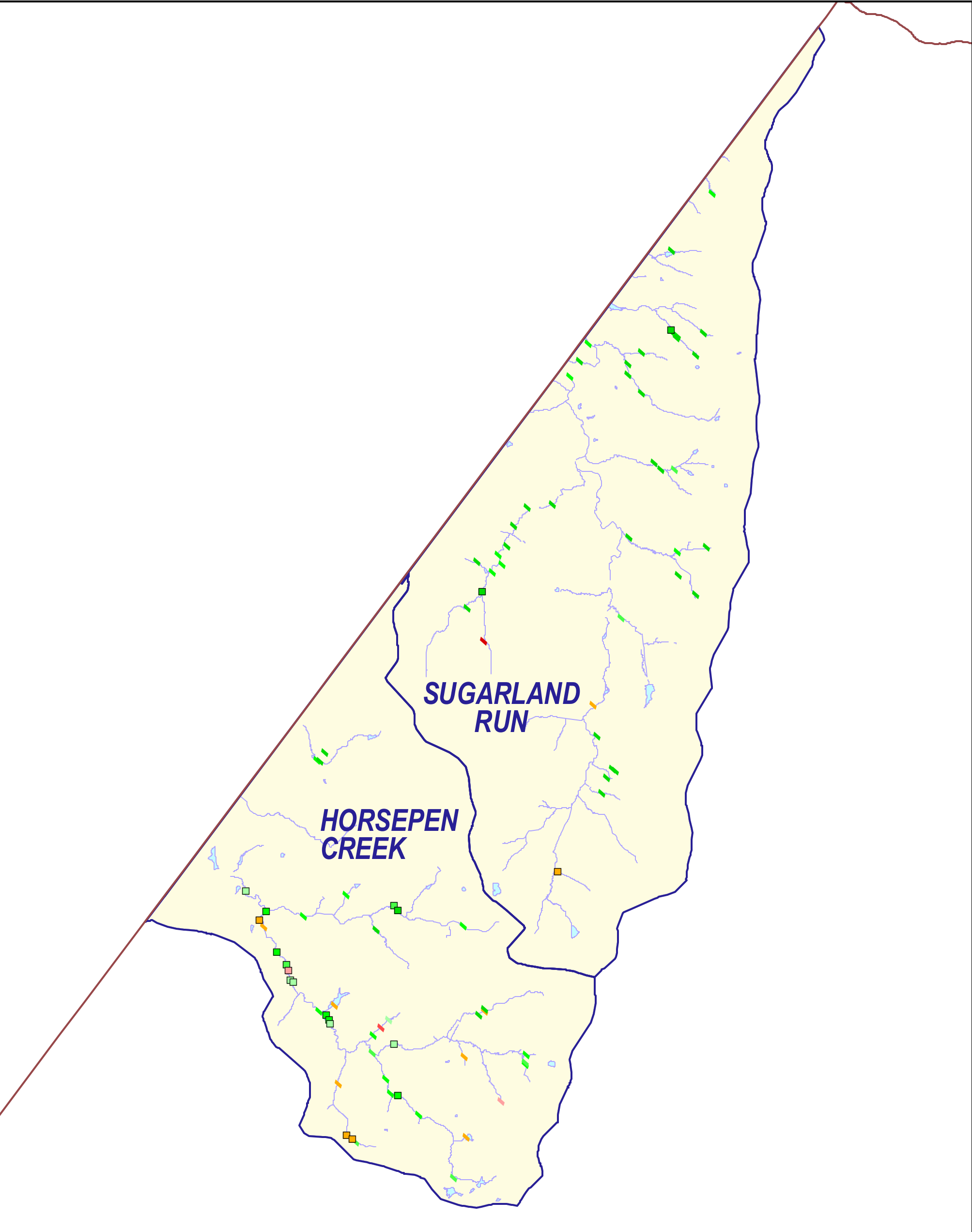
WATERSHED GROUP:
SUGARLAND RUN



0 3000 6000 9000 12000 Feet

Figure 3-6
Deficient Buffer Impacts
Sugarland Run Group
Fairfax County Stream Physical Assessment





Pipe / Ditch by Impact Score

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

- Fairfax County Boundary
- Lakes and Ponds
- Streams
- Watersheds

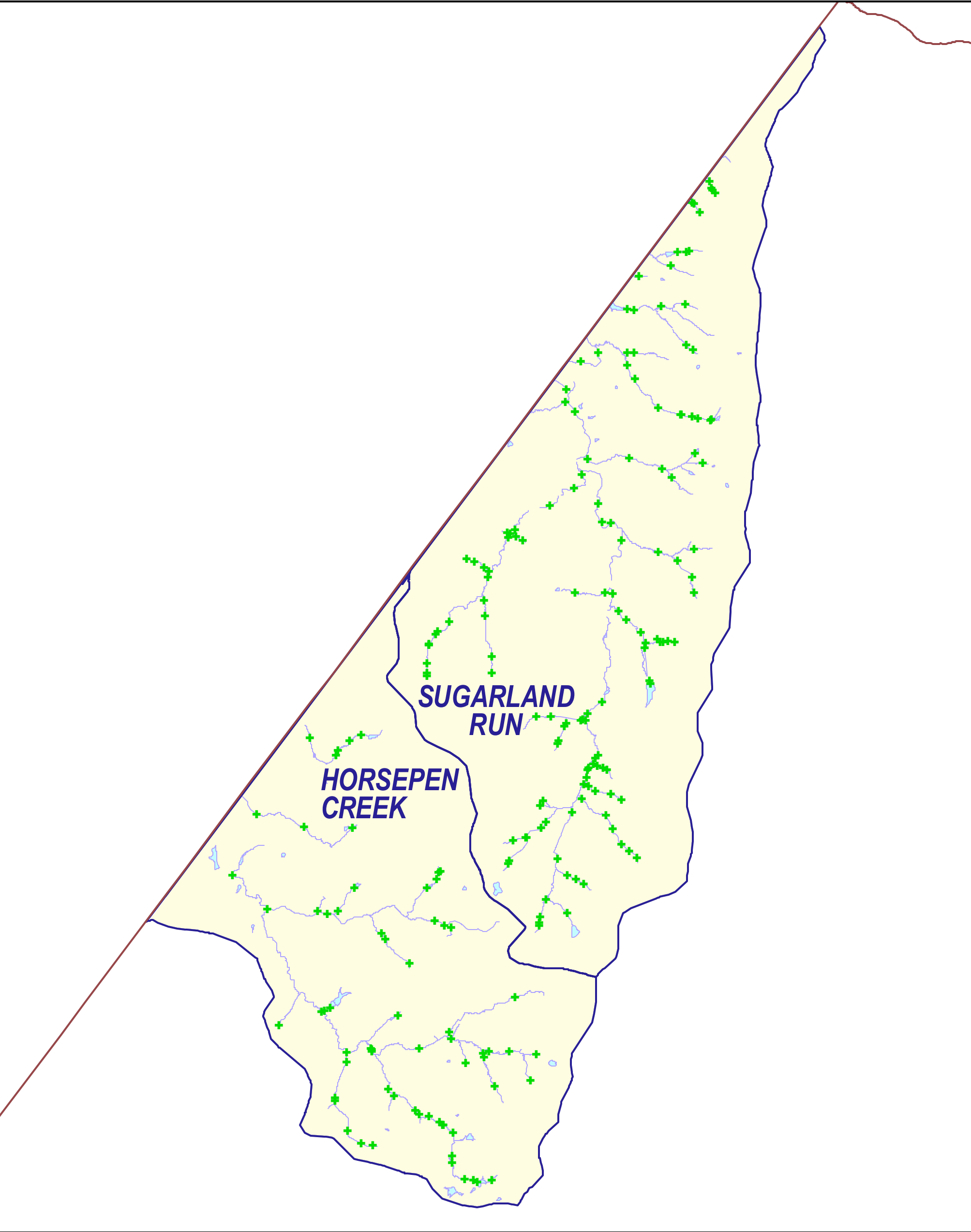
WATERSHED GROUP:
SUGARLAND RUN



0 3000 6000 9000 12000 Feet

Figure 3-7
Pipe and Ditch Impacts
Sugarland Run Group
Fairfax County Stream Physical Assessment





Inventory Type
+ Crossing

- Fairfax County Boundary
- Lakes and Ponds
- Streams
- Watersheds

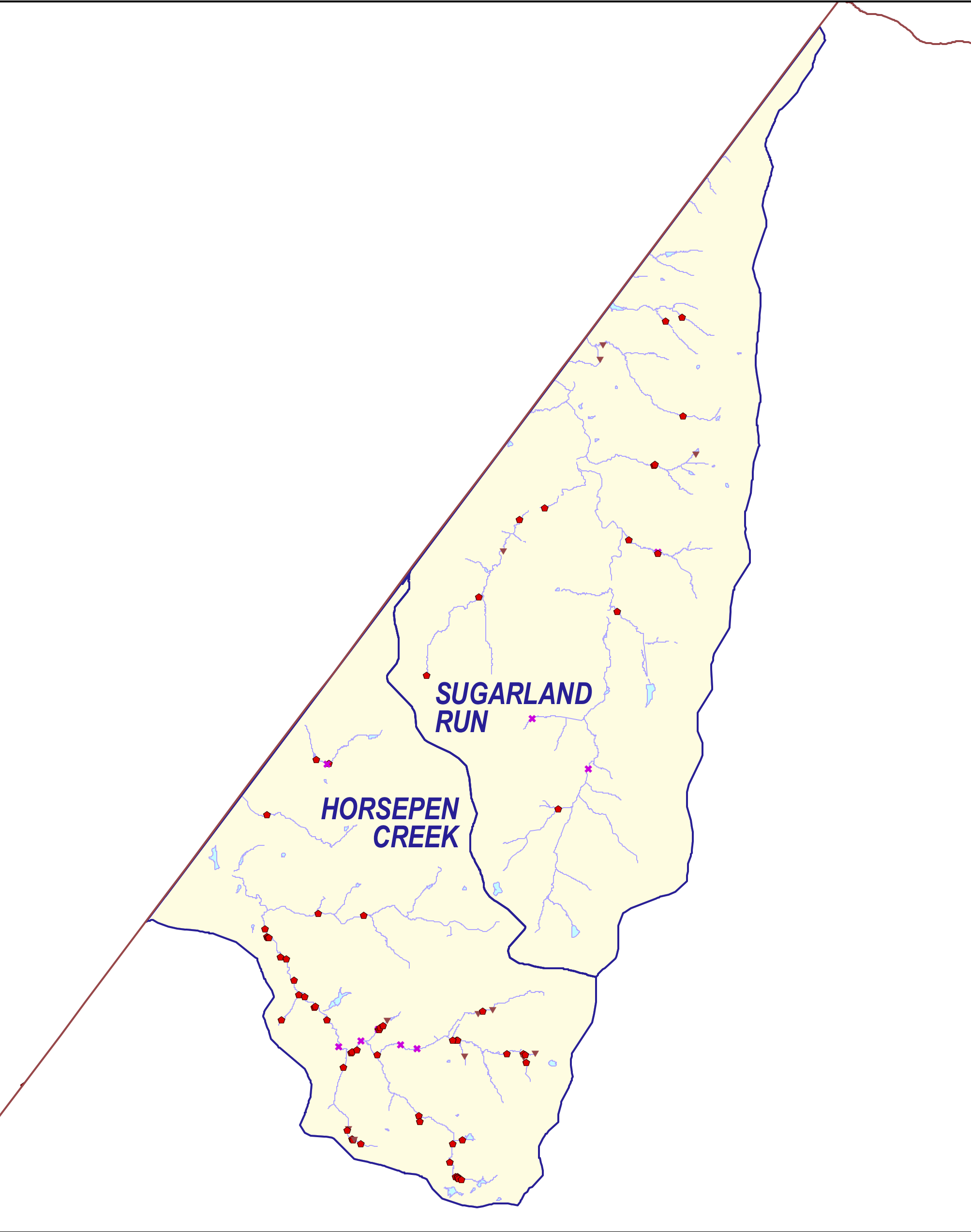
WATERSHED GROUP:
SUGARLAND RUN



0 3000 6000 9000 12000 Feet

Figure 3-8
Crossings
Sugarland Run Group
Fairfax County Stream Physical Assessment





Inventory Types

- ▼ Dump
- ◆ Obstruction
- ✕ Utility

- ▭ Fairfax County Boundary
- ▭ Lakes and Ponds
- ▭ Streams
- ▭ Watersheds

WATERSHED GROUP:
SUGARLAND RUN



0 3000 6000 9000 12000 Feet

Figure 3-9
Dumps, Obstructions, and Utilities
Sugarland Run Group
Fairfax County Stream Physical Assessment

